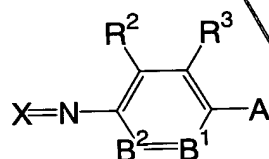


WHAT IS CLAIMED IS:

2ub A1

1. An ink-jet ink which contains a coloring composition which is formed by dispersing coloring particulates in a water-based medium, and the coloring particulates containing a nonionic oil-soluble polymer, a hydrophobic high boiling point organic solvent having a boiling point of 150°C or more, and an oil-soluble dye.

2. An ink-jet ink according to claim 1, wherein the oil-soluble dye is represented in the following general formula (I):



General Formula (I)

wherein, X represents the residue of a color coupler;

A represents one of -NR<sup>4</sup>R<sup>5</sup> and a hydroxyl group;

R<sup>4</sup> and R<sup>5</sup> represent respectively independently one of a hydrogen atom, an aliphatic group, an aromatic group, and a heterocyclic group;

B<sup>1</sup> represents one of =C (R<sup>6</sup>) - and =N-;

B<sup>2</sup> represents one of -C (R<sup>7</sup>) = and -N=;

R<sup>2</sup>, R<sup>3</sup>, R<sup>6</sup>, and R<sup>7</sup> represent respectively independently one of a hydrogen atom, a halogen atom, an aliphatic group, an aromatic group, a heterocyclic group, a cyano group, -OR<sup>51</sup>, -SR<sup>52</sup>, -CO<sub>2</sub>R<sup>53</sup>, -OCOR<sup>54</sup>, -

$\text{NR}^{55}\text{R}^{56}$ ,  $-\text{CONR}^{57}\text{R}^{58}$ ,  $-\text{SO}_2\text{R}^{59}$ ,  $-\text{SO}_2\text{NR}^{60}\text{R}^{61}$ ,  $-\text{NR}^{62}\text{CONR}^{63}\text{R}^{64}$ ,  $-\text{NR}^{65}\text{CO}_2\text{R}^{66}$ ,  $-\text{COR}^{67}$ ,  $-\text{NR}^{68}\text{COR}^{69}$ , and  $-\text{NR}^{70}\text{SO}_2\text{R}^{71}$ ;

$\text{R}^{51}$ ,  $\text{R}^{52}$ ,  $\text{R}^{53}$ ,  $\text{R}^{54}$ ,  $\text{R}^{55}$ ,  $\text{R}^{56}$ ,  $\text{R}^{57}$ ,  $\text{R}^{58}$ ,  $\text{R}^{59}$ ,  $\text{R}^{60}$ ,  $\text{R}^{61}$ ,  $\text{R}^{62}$ ,  $\text{R}^{63}$ ,  $\text{R}^{64}$ ,  $\text{R}^{65}$ ,  $\text{R}^{66}$ ,  $\text{R}^{67}$ ,  $\text{R}^{68}$ ,  $\text{R}^{69}$ ,  $\text{R}^{70}$ , and  $\text{R}^{71}$  represent respectively independently one of a hydrogen atom, an aliphatic group, and an aromatic group; and

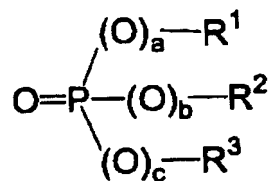
$\text{R}^2$  and  $\text{R}^3$ ,  $\text{R}^3$  and  $\text{R}^4$ ,  $\text{R}^4$  and  $\text{R}^5$ ,  $\text{R}^5$  and  $\text{R}^6$ , and  $\text{R}^6$  and  $\text{R}^7$  may be connected to each other and form rings.

3. An ink-jet ink according to claim 1, wherein the nonionic oil-soluble polymer is a vinyl polymer.

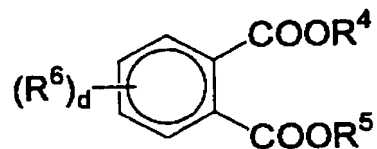
Sub P2 4. An ink-jet ink according to claim 1, wherein the hydrophobic high boiling point organic solvent is at least one hydrophobic high boiling point organic solvent selected from hydrophobic high boiling point organic solvents represented by following formulae [S-1] to [S-9]:

24412  
cont.

Formula [S-1]



Formula [S-2]



Formula [S-3]



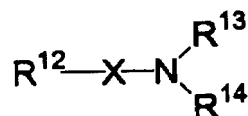
Formula [S-4]



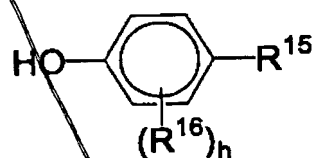
Formula [S-5]



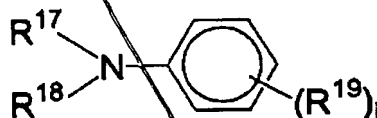
Formula [S-6]



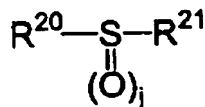
Formula [S-7]



Formula [S-8]



Formula [S-9]



Sub A2  
cont.

wherein: in the formula [S-1],  $R^1$ ,  $R^2$  and  $R^3$  each independently represents one of an aliphatic group and an aryl group, and a, b and c each independently represents 0 or 1;

in the formula [S-2],  $R^4$  and  $R^5$  each independently represents one of an aliphatic group and an aryl group,  $R^6$  represents one of a fluorine atom, chlorine atom, bromine atom, iodine atom, alkyl group, alkoxy group, aryloxy group, alkoxycarbonyl group and aryloxycarbonyl group, d represents an integer from 0 to 3, and, in a case where d is more than 1, one  $R^6$  may be different from another  $R^6$ ;

in the formula [S-3], Ar represents an aryl group, e represents an integer from 1 to 6, and  $R^7$  represents one of an e-valent hydrocarbon group and a hydrocarbon group that is mutually bonded by an ether bond;

in the formula [S-4],  $R^8$  represents an aliphatic group, f represents an integer from 1 to 6, and  $R^9$  represents one of an f-valent hydrocarbon group and a hydrocarbon group that is mutually bonded by an ether bond;

in the formula [S-5], g represents an integer from 2 to 6,  $R^{10}$  represents a g-valent hydrocarbon group other than an aryl group, and  $R^{11}$  represents one of an aliphatic group and an aryl group;

in the formula [S-6],  $R^{12}$ ,  $R^{13}$  and  $R^{14}$  each independently represents one of a hydrogen atom, aliphatic group and aryl group, X represents one of -CO- and -SO<sub>2</sub>-, and one of a pair  $R^{12}$  and  $R^{13}$  and a pair  $R^{13}$  and  $R^{14}$  may bond together mutually to form a ring;

Sub A2  
cont.

in the formula [S-7],  $R^{15}$  represents one of an aliphatic group, alkoxycarbonyl group, aryloxy carbonyl group, alkylsulfonyl group, arylsulfonyl group, aryl group and cyano group,  $R^{16}$  represents one of a fluorine atom, chlorine atom, bromine atom, iodine atom, aliphatic group, aryl group, alkoxy group and aryloxy group,  $h$  represents an integer from 0 to 3, and in a case where  $h$  is more than 1, one  $R^{16}$  may be different from another  $R^{16}$ ;

in the formula [S-8],  $R^{17}$  and  $R^{18}$  each independently represents one of an aliphatic group and an aryl group,  $R^{19}$  represents one of a fluorine atom, chlorine atom, bromine atom, iodine atom, aliphatic group, aryl group, alkoxy group and aryloxy group,  $i$  represents an integer from 0 to 4, and, in a case where  $i$  is more than 1, one  $R^{19}$  may be different from another  $R^{19}$ ;

in the formula [S-9],  $R^{20}$  and  $R^{21}$  each independently represents an aliphatic group or aryl group, and  $j$  represents 1 or 2.

5. An ink-jet ink according to claim 1, wherein an amount of content of the hydrophobic high boiling point organic solvent in the coloring composition is 25 to 95 % by mass based on the sum of the oil-soluble dye, the nonionic oil-soluble polymer, and the hydrophobic high boiling point organic solvent.

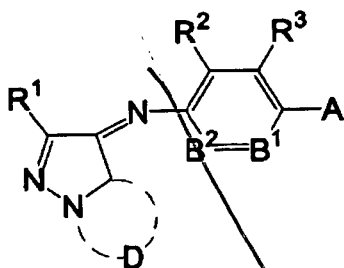
6. An ink-jet ink according to claim 1, wherein an amount of content of the nonionic oil-soluble polymer in the coloring composition is 1 to 70 % by mass based on the sum of the oil-soluble dye, the

nonionic oil-soluble polymer, and the hydrophobic high boiling point organic solvent.

7. An ink-jet ink according to claim 1, wherein an amount of content of the oil-soluble dye in the coloring composition is 1 to 70 % by mass based on the sum of the oil-soluble dye, the nonionic oil-soluble polymer, and the hydrophobic high boiling point organic solvent.

8. An ink-jet ink according to claim 1, wherein an average particle size of dispersed particles in the coloring composition is 100 nm or less.

Sub AB 9. An ink-jet ink according to claim 2, wherein the oil-soluble dye which is represented in said general formula (I) is a compound which is represented in the following general formula (II):



General Formula (II)

wherein, R<sup>2</sup>, R<sup>3</sup>, A, B<sup>1</sup>, and B<sup>2</sup> are synonymous with R<sup>2</sup>, R<sup>3</sup>, A, B<sup>1</sup>, and B<sup>2</sup> in said general formula (I);

Sub A3  
cont.

$R^1$  represents one of a hydrogen atom, an aliphatic group, an aromatic group, a heterocyclic group, a cyano group,  $-OR^{11}$ ,  $-SR^{12}$ ,  $-CO_2R^{13}$ ,  $-OCOR^{14}$ ,  $-NR^{15}R^{16}$ ,  $-CONR^{17}R^{18}$ ,  $-SO_2R^{19}$ ,  $-SO_2NR^{20}R^{21}$ ,  $-NR^{22}CONR^{23}R^{24}$ ,  $-NR^{25}CO_2R^{26}$ ,  $-COR^{27}$ ,  $-NR^{28}COR^{29}$ , and  $-NR^{30}SO_2R^{31}$ ;

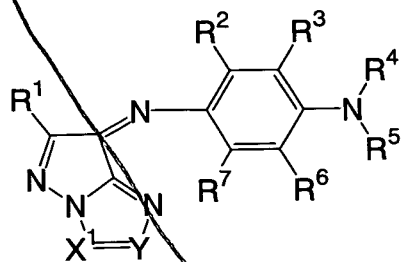
$R^{11}$ ,  $R^{12}$ ,  $R^{13}$ ,  $R^{14}$ ,  $R^{15}$ ,  $R^{16}$ ,  $R^{17}$ ,  $R^{18}$ ,  $R^{19}$ ,  $R^{20}$ ,  $R^{21}$ ,  $R^{22}$ ,  $R^{23}$ ,  $R^{24}$ ,  $R^{25}$ ,  $R^{26}$ ,  $R^{27}$ ,  $R^{28}$ ,  $R^{29}$ ,  $R^{30}$ , and  $R^{31}$  represent respectively independently one of a hydrogen atom, an aliphatic group, and an aromatic group;

D represents an atom group which forms one of a five-membered nitrogen-containing heterocyclic ring and a six-membered nitrogen-containing heterocyclic ring which may be substituted for at least one of an aliphatic group, an aromatic group, a heterocyclic group, a cyano group,  $-OR^{81}$ ,  $-SR^{82}$ ,  $-CO_2R^{83}$ ,  $-OCOR^{84}$ ,  $-NR^{85}R^{86}$ ,  $-CONR^{87}R^{88}$ ,  $-SO_2R^{89}$ ,  $-SO_2NR^{90}R^{91}$ ,  $-NR^{92}CONR^{93}R^{94}$ ,  $-NR^{95}CO_2R^{96}$ ,  $-COR^{97}$ ,  $-NR^{98}COR^{99}$ , and  $-NR^{100}SO_2R^{101}$ ;

the heterocyclic ring may further form a condensed ring with another ring; and

$R^{81}$ ,  $R^{82}$ ,  $R^{83}$ ,  $R^{84}$ ,  $R^{85}$ ,  $R^{86}$ ,  $R^{87}$ ,  $R^{88}$ ,  $R^{89}$ ,  $R^{90}$ ,  $R^{91}$ ,  $R^{92}$ ,  $R^{93}$ ,  $R^{94}$ ,  $R^{95}$ ,  $R^{96}$ ,  $R^{97}$ ,  $R^{98}$ ,  $R^{99}$ ,  $R^{100}$ , and  $R^{101}$  represent respectively independently one of a hydrogen atom, an aliphatic group, and an aromatic group.

10. An ink-jet ink according to claim 9, wherein the compound which is represented in said general formula (II) is a compound which is represented in the following general formula (III):



General Formula (III)

wherein,  $R^1$ ,  $R^2$ ,  $R^3$ ,  $R^4$ ,  $R^5$ ,  $R^6$ , and  $R^7$  are synonymous with  $R^1$ ,  $R^2$ ,  $R^3$ ,  $R^4$ ,  $R^5$ ,  $R^6$ , and  $R^7$  in said general formula (II);

$X^1$  and  $Y$  represent respectively independently one of  $-C(R^8)=$  and  $-N=$ ;

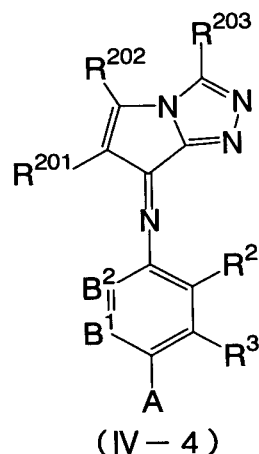
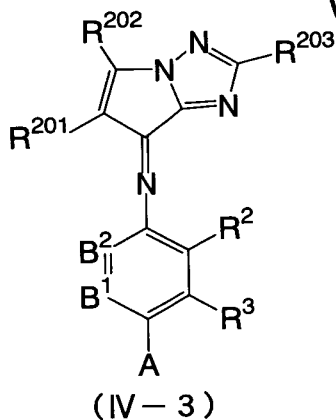
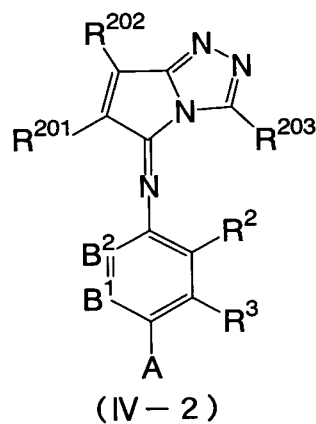
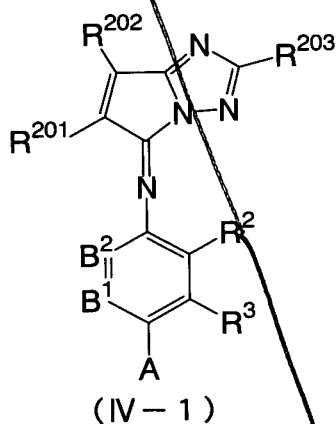
$R^8$  represents one of a hydrogen atom, an aliphatic group, and an aromatic group; and

one of  $X^1$  and  $Y$  is always  $-N=$ , and  $X^1$  and  $Y$  are  $-N=$  at different times.



Sub A3  
cont.

11. An ink-jet ink according to claim 2, wherein the oil-soluble dye which is represented in said general formula (I) is at least one of compounds which are represented in the following general formulas (IV-1) to (IV-4):



wherein, A, R<sup>2</sup>, R<sup>3</sup>, B<sup>1</sup>, and B<sup>2</sup> are synonymous with A, R<sup>2</sup>, R<sup>3</sup>, B<sup>1</sup>, and B<sup>2</sup> in said general formula (I);

R<sup>201</sup>, R<sup>202</sup>, and R<sup>203</sup> represent respectively independently one of a hydrogen atom, an aliphatic group, an aromatic group, a heterocyclic group, a cyano group, -OR<sup>11</sup>, -SR<sup>12</sup>, -CO<sub>2</sub>R<sup>13</sup>, -OCOR<sup>14</sup>, -NR<sup>15</sup>R<sup>16</sup>, -

Sub A3  
cont,

$\text{CONR}^{17}\text{R}^{18}$ ,  $-\text{SO}_2\text{R}^{19}$ ,  $-\text{SO}_2\text{NR}^{20}\text{R}^{21}$ ,  $-\text{NR}^{22}\text{CONR}^{23}\text{R}^{24}$ ,  $-\text{NR}^{25}\text{CO}_2\text{R}^{26}$ ,  $-\text{COR}^{27}$ ,  $-\text{NR}^{28}\text{COR}^{29}$ , and  $-\text{NR}^{30}\text{SO}_2\text{R}^{31}$ ;

$\text{R}^{11}$ ,  $\text{R}^{12}$ ,  $\text{R}^{13}$ ,  $\text{R}^{14}$ ,  $\text{R}^{15}$ ,  $\text{R}^{16}$ ,  $\text{R}^{17}$ ,  $\text{R}^{18}$ ,  $\text{R}^{19}$ ,  $\text{R}^{20}$ ,  $\text{R}^{21}$ ,  $\text{R}^{22}$ ,  $\text{R}^{23}$ ,  $\text{R}^{24}$ ,  $\text{R}^{25}$ ,  $\text{R}^{26}$ ,  $\text{R}^{27}$ ,  $\text{R}^{28}$ ,  $\text{R}^{29}$ ,  $\text{R}^{30}$ , and  $\text{R}^{31}$  represent respectively independently one of a hydrogen atom, an aliphatic group, and an aromatic group; and

$\text{R}^{201}$  and  $\text{R}^{202}$  may be combined with each other and form a ring structure.

12. A coloring composition which is formed by dispersing coloring particulates in a water-based medium, and the coloring particulates containing a nonionic oil-soluble polymer, a hydrophobic high boiling point organic solvent having a boiling point of 150°C or more, and an oil-soluble dye.

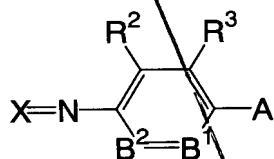
13. A coloring composition according to claim 12, wherein said coloring composition is used for an ink composition.

Sub A4

14. An ink jet recording method, in which recording is carried out using an ink-jet ink which contains a coloring composition, the coloring composition being formed by dispersing coloring particulates in a water-based medium, and the coloring particulates containing a nonionic oil-soluble polymer, a hydrophobic high boiling point organic solvent having a boiling point of 150°C or more, and an oil-soluble dye.

15. An ink jet recording method according to claim 14, wherein the recording is carried out on a material to be recorded which is provided with an ink receiving layer on a supporting body, and the ink receiving layer includes a porous inorganic pigment.

16. An ink jet recording method according to claim 14, wherein the oil-soluble dye is represented in the following general formula (I):



General Formula (I)

wherein, X represents the residue of a color coupler;

A represents one of  $-NR^4R^5$  and a hydroxyl group;

$R^4$  and  $R^5$  represent respectively independently one of a hydrogen atom, an aliphatic group, an aromatic group, and a heterocyclic group;

$B^1$  represents one of  $=C(R^6)-$  and  $=N-$ ;

$B^2$  represents one of  $-C(R^7)=$  and  $-N=$ ;

$R^2$ ,  $R^3$ ,  $R^6$ , and  $R^7$  represent respectively independently one of a hydrogen atom, a halogen atom, an aliphatic group, an aromatic group, a heterocyclic group, a cyano group,  $-OR^{51}$ ,  $-SR^{52}$ ,  $-CO_2R^{53}$ ,  $-OCOR^{54}$ ,  $-NR^{55}R^{56}$ ,  $-CONR^{57}R^{58}$ ,  $-SO_2R^{59}$ ,  $-SO_2NR^{60}R^{61}$ ,  $-NR^{62}CONR^{63}R^{64}$ ,  $-NR^{65}CO_2R^{66}$ ,  $-COR^{67}$ ,  $-NR^{68}COR^{69}$ , and  $-NR^{70}SO_2R^{71}$ ;

$R^{51}, R^{52}, R^{53}, R^{54}, R^{55}, R^{56}, R^{57}, R^{58}, R^{59}, R^{60}, R^{61}, R^{62}, R^{63}, R^{64}, R^{65}, R^{66},$   
 $R^{67}, R^{68}, R^{69}, R^{70},$  and  $R^{71}$  represent respectively independently one of a  
hydrogen atom, an aliphatic group, and an aromatic group; and  
 $R^2$  and  $R^3$ ,  $R^3$  and  $R^4$ ,  $R^4$  and  $R^5$ ,  $R^5$  and  $R^6$ , and  $R^6$  and  $R^7$   
may be connected to each other and form rings.

17. An ink jet recording method according to claim 14, wherein  
the nonionic oil-soluble polymer is a vinyl polymer.

18. An ink jet recording method according to claim 14, wherein  
a specific inductive capacity of the hydrophobic high boiling point  
organic solvent at 25°C is 3 to 12.

19. An ink jet recording method according to claim 14, wherein  
an amount of content of the hydrophobic high boiling point organic  
solvent in the coloring particulates is 25 % by mass or more.

20. An ink jet recording method according to claim 14, wherein  
an average particle size of dispersed particles in the coloring  
composition is 100 nm or less.